

CLAIMS

1. Fluid bed (F1) granulation process of a predetermined substance, comprising the cooling of the granules obtained in a second fluid bed (F2), characterized in that it uses a
5 same flow of fluidification air to form and support continuously and in the order said cooling (F2) and, respectively, granulation (F1) fluid beds, substantially arranged in series with respect to said flow.
2. Process according to claim 1, characterized in that
10 the finished granules of said substance are transferred substantially in cascade from said granulation bed to said cooling bed.
3. Apparatus for carrying out the fluid bed granulation process according to claim 1, comprising a self-supporting
15 structure substantially shaped like a container (2), defining a granulation space (A) inside of it, in which a shelf (14) is positioned, intended to support a granulation fluid bed (F1), characterized in that it comprises, in said space (A), a base plate (4), positioned below and in a
20 predetermined spaced relationship from said shelf (14), said base plate (4) being intended to support a respective cooling fluid bed (F2) of hot finished granules coming from said granulation bed (F1), said cooling bed (F2) being in fluid communication with said granulation bed (F1) through
25 said shelf (14), provided perforated, grated or in any case permeable to gas flows, a downcomer (16), extending vertically in said space (A), suitable for the transfer of finished granules from said granulation fluid bed (F1) to said cooling fluid bed (F2) at said base plate (4), means
30 for feeding and distributing (22, 19) fluidification air in said space (A) below said base plate (4), to form and

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maintain said cooling bed (F2) and said granulation bed (F1), which are arranged in series with respect to said flow.

4. Apparatus according to claim 3, characterized in that
5 said downcomer (16) comprises a vertical panel (15), supported in said space (A) in a predetermined spaced relationship from a wall (8) of said container structure (2), defining with it an interspace (16), said panel (15) having a horizontal bottom side spaced from said base plate
10 (4), so as to define with it a passage (25), suitable for putting said interspace (16) in communication with the space (A) above the aforementioned base plate (4).

5. Apparatus according to claim 4, characterized in that
15 said interspace (16) is in communication at the top with said space (A), through an opening (11) provided in it.

6. Apparatus according to claim 3, characterized in that
said cooling fluid bed (F2) is in communication with the outside through a pocket (18) between a wall (7) of said container structure (2) and a front panel (17) fixed to the
20 base plate (4) supporting the cooling bed (F2) and preferably parallel to said top wall (7).

7. Apparatus according to claim 6, characterized in that
said front panel 17 comprises a mobile bulkhead (21), able to slide vertically and adjustable in height.